

Climatological Data for October, 1910.
DISTRICT No. 8, TEXAS AND RIO GRANDE VALLEY.

BERNARD BUNNEMEYER, District Editor.

GENERAL SUMMARY.

The weather during the greater part of the month was warm and pleasant, with an abundance of sunshine and generally deficient precipitation. Light to dense morning fogs occurred in Texas on several days between the 10th and 27th. There were but few days with precipitation, the average being about 3 in New Mexico and 4 in Colorado and Texas. Most of the precipitation occurred during the second decade, and there was no rain in by far the greater portion of the district after the 20th. The deficiency in precipitation averaged greatest in Texas notwithstanding a conspicuous excess in a large number of west-central and southwestern counties, on the immediate upper coast, and in limited portions of the lower Rio Grande Valley.

The greatest monthly precipitation in Colorado was 3.06 inches at Cumbres; in New Mexico, 2.76 inches at Swastika Ranch; and in Texas, 9.36 inches at Galveston. The least in Colorado was 0.55 inch at Saguache. There was no precipitation at Newman, N. Mex., and at Dilley and Marfa, Tex., while at three other stations in New Mexico and at four in Texas the monthly amounts were less than 0.10 inch. Excessive precipitation of 2.50 inches or more in 24 consecutive hours occurred as follows: Abilene, 3.77; Columbia, 2.71; Galveston, 6.62; and Hondo, 2.60.

Snow fell on several days in the northwestern portions of the district, the depth of fall increasing from a trace in northwestern Texas and the lower valleys of New Mexico to 36.7 inches at Harveys Upper Ranch, N. Mex. The greatest fall in Colorado was 24.5 inches at La Veta Pass. The snow disappeared rapidly, however, and only the higher peaks remained covered at the close of the month.

TEMPERATURE.

The monthly mean temperature was 2.4° above normal in Colorado, 0.3° below in New Mexico, and 0.4° above in Texas. During the greater part of the month the weather was warm, and temperatures of 90° and over were recorded on several days in the larger portion of the district. Unusually cold weather occurred from the 19th to the 22d and from the 27th to the 30th. During the former period the lowest temperatures of the month were recorded in Colorado and a large portion of New Mexico; and during the latter, in the remainder of the district. The diurnal range of temperature varied from about 10° on the upper Texas coast to about 44° in the extreme northwestern portion of the district.

The highest and lowest temperatures reported were: In Colorado, 90° at Saguache, on the 10th, and -15° at Hermit, on the 21st; in New Mexico, 95° at Newman, on the 1st, at Socorro on the 4th, and at Carrizozo on the 8th, and -1° at Tres Piedras on the 21st; and in Texas, 101° at Tilden, on the 13th and 16th, and at Grapevine on the 15th, and 22° at Carmona on the 29th. The local monthly means ranged from 43.4° to 48.6° in Colorado, from 39.1° to 62.3° in New Mexico; and from 61.0° to 75.2° in Texas.

PRECIPITATION.

The precipitation over the Rio Grande watershed was generally deficient and averaged less than during the preceding month, although it was better distributed. The average this month was 0.89 inch as against 1.23 inch in September. The higher September average was the result of torrential rains in the extreme lower valley.

The average for the Rio Pecos watershed was only 0.67 inch which is about 0.20 inch less than the average for the preceding

month. The deficiency of precipitation covered the entire watershed, but was greatest over the lower reaches.

The precipitation over the Nueces, San Antonio, and Colorado watersheds exceeded the normal, but it was decidedly deficient over the remaining Texas watersheds, including the coastal plains, although heavy rains occurred on the upper coast and good rains over limited areas in the Guadalupe and Brazos watersheds. The following are the average monthly amounts in inches for the various river basins: Nueces, 2.69; San Antonio, 2.16; Guadalupe, 2.26; Lavaca, 1.46; Colorado, 2.37; Brazos, 1.95; Trinity, 1.29; Neches, 1.90; Sabine, 1.10; and coastal plains, 2.32. Compared with the rainfall for the preceding month there was a general increase, except over the Lavaca and Trinity watersheds and over the coastal plains.

RIVER CONDITIONS.

The flow of the upper Rio Grande was low during the month, and there was no water available for distribution at the Leasburg Project. The lower Rio Grande fell slowly during the entire month at Eagle Pass and at the close of the month was below normal at that place, but there was ample water for irrigation. Farther below, the river rose on the 5th, 6th, and 7th, becoming nearly bank full at Llano Grande, and then fell gradually during the remainder of the month.

At the Carlsbad Project water was delivered throughout the month, but at the Hondo Project there was not much available for irrigation.

The remaining rivers of the district continued unusually low during the month; in fact, the volumes of water discharged by them were slightly less than during September. The stages of the Guadalupe, Colorado, and Brazos rivers are the lowest on record for October.

MISCELLANEOUS.

Frosts.—Killing frosts occurred in high altitude districts of New Mexico on the 3d, and in some of the northern districts on the 6th, but a general killing frost was delayed until the morning of the 20th or 21st.

In Texas killing frosts occurred on the 21st in some northern and western localities, and from the 27th to 30th in the eastern half of the State southward nearly to the coast. In the fall of 1909 the first killing frost in Texas occurred about 10 days earlier.

Eagle Pass.—The effect of the drought was felt seriously by stockmen. Northerners came earlier than usual.

Grand Saline.—This has been the driest weather known for years and water is scarce.

Hondo.—Good general rains on the 4th made stock water, started grass, and enabled oats to be planted.

Kerrville.—Crops are doing well, but rain came too late to help pastures.

Mountain View.—Many cattle have died during the month on account of the drought.

Sealy.—About all the crops have been gathered. There was no top crop of cotton on account of the dry weather.

Drainage districts.—Preliminary steps have been taken for the creation of a third drainage district in Galveston County, Tex. It is contemplated to drain about 21,000 acres on the mainland between Virginia Point and Dickinson Bayou at an estimated cost of about \$50,000. Work on drainage district No. 1 will probably be completed in January, 1911. Actual work on drainage district No. 2 has not yet begun, but the drainage commissioners have been appointed and are ready for a preliminary survey, after which bonds will be issued and bids solicited for the work.

TABLE 1.—Climatological data for October, 1910. District No. 8, Texas and Rio Grande Valley.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.						Sky.	Prevailing wind direction.	Observers.				
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Date.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmetted.	Number of rainy days, .01 inch or more.	Number of clear days.	Number of cloudy days.					
<i>Colorado.</i>																						
Blanca.	Costilla.	8,403	1	43.4		80	8	10	21	56	0.87		0.54	1.5	6	16	13	2	sw.	L. C. Audrain.		
Cumbres.	Costilla.	10,015	3										1.32	17.0	6	13	9	10		Ida M. Lively.		
Garnett.	Costilla.	7,576	17	45.6	+ 3.6	81	9	10	21	55	0.64	+ 0.04	0.56	2.0	2	21	5	5		Chas. Speiser.		
Hermit.	Hinsdale.	9,843						-15	21										Marion Mason.			
La Veta Pass.	Costilla.	9,000																	Norvin R. Lively.			
Manassa.	Conejos.	7,700	4	44.0		80	9	4	21	55	0.60		0.45	1.5	2	22	0	9	e.	J. B. Chapman.		
Platoro.	do.	9,675	2																Walter R. Hook.			
Saguache.	Saguache.	7,740	18	48.6	+ 3.2	90	10	10	19	56	0.55	- 0.18	0.20	0.0	3	20	1	10	w.	Eugene Williams.		
San Luis.	Costilla.	7,794	19	45.6	+ 0.4	74	11	14	21	49	0.93	- 0.01	0.24	0.8	4	21	10	0	sw.	P. B. Albright.		
Wagon Wheel Gap	Mineral.	8,434	11																	S. Eland.		
<i>New Mexico.</i>																						
Agricultural College.	Dona Ana.	3,863	44	62.0	0.0	90	1	29	22	48	0.03	- 0.73	0.03	0.0	1	16	14	1	s.	New Mexico Agri. College.		
Alamogordo (near).	Otero.	4,238	9	60.0	- 0.4	89	11	28	21	48	0.70	- 0.12	0.63	0.0	4	19	11	1		Geo. C. Beams.		
Alamogordo.	do.	4,320	1																El Paso & Southwest. R. R.			
Albuquerque.	Bernalillo.	5,000	34						24	21		0.29	- 0.35	0.18	T.	3	10	8	w.	Pitt Ross, C. E.		
Ancho.	Lincoln.	6,112	1																El Paso & Southwest. R. R.			
Artesia.	Eddy.	3,350	2	59.8		91	4	24	28	49	0.46		0.27	0.0	4	23	5	3	se.	Will Benson.		
Aspen Grove Ranch.	Rio Arriba.	9,000	1						0	21									Junius D. Maupin.			
Bateman's Ranch.	Valencia.	6,733	8	47.4		84	1	14	29	60	1.14		1.66	24.6	5	11	16	4	w.	John W. Bateman.		
Bluewater.	do.	9,000	1																Bluewater Development Co. Do.			
Bluewater Reservoir.	Chaves.	4,154	1	58.6		85	1	22	21	43	0.36		0.29	0.0	2	26	3	2	s.	D. C. Savage.		
Capitan.	Lincoln.	6,348	1																El Paso & Southwest. R. R.			
Carlsbad.	Eddy.	3,120	15	62.3	- 1.1	94	4	26	28	50	0.34	- 0.00	0.18	0.0	4	25	3	3	se.	U. S. Reclamation Service.		
Carrizozo.	Lincoln.	5,429	2	60.4		95	8	25	21	38	0.60		0.50	T.	2	23	8	0	sw.	El Paso & Southwest. R. R.		
Carson Park.	Taos.	7,650																	Lester S. Myers.			
Chama.	Rio Arriba.	7,551	11	45.8	- 1.9	83	8	9	21	48	1.86	+ 0.56	1.06	3.0	5	24	3	4	sw.	Frank C. Johnson.		
Cloudcroft.	Otero.	8,650	7	45.6		70	10	12	21	40	0.68		0.60	8.0	2	18	10	3	sw.	El Paso & Southwest. R. R.		
Corona.	Lincoln.	6,669																	Do.			
Coyote.	do.	5,800	1																Do.			
Cundiyó.	Santa Fe.	6,889	1																Teofilo Vilij.			
Demonstration Farm.	San Miguel.	6,800																	Erb & Westerman.			
Duran.	Torrance.	6,272	1																El Paso & Southwest. R. R.			
Elk (near).	Chaves.	7,400	11																Boyd Williams.			
Escondido.	Otero.	4,014	1																El Paso & Southwest. R. R.			
Espanola.	Rio Arriba.	5,590	13																Mrs. E. F. McBride.			
Estancia.	Torrance.	6,140	5	45.2		72	2	18	24	40	2.04		1.40	2.0	4	20	6	5	e.	New Mex. Cent. R./R.		
Fort Stanton.	Lincoln.	6,231	32	52.4	+ 0.5	86	1	18	28	55	0.56	- 0.78	0.33	4.0	4	23	4	4	w.	U. S. Sanitarium.		
Fort Sumner.	Guadalupe.	3,960	2	54.9	- 1.0	85	7	19	27	48	0.61	- 0.18	0.42	0.0	2	28	1	1	sw.	F. A. Manzanares.		
Gallinas.	Lincoln.	6,635	1																El Paso & Southwest. R. R.			
Gallinas Planting Station.	San Miguel.	7,500	3	49.6		84	7	9	21	49	1.27		1.00	11.0	4	17	11	6	w.	U. S. Forest Service.		
Harvey's Upper Ranch.	do.	9,400	1																Simon B. Warner.			
Hillsboro.	Sierra.	5,224	13																Dr. Frank I. Givens.			
Hodges.	Taos.	8,484	1																A. Porter.			
Hondo Reservoir.	Chaves.	3,904	1	58.6		93	4	22	28	51	0.31		0.15	T.	2	22	4	5	sw.	U. S. Reclamation Service.		
Hope.	Eddy.	4,000	3																A. W. Board.			
Hopewell.	Rio Arriba.	9,500	1																John T. Blanton.			
Jemez Springs.	Sandoval.	6,100		51.2		81	8	21	21	39	1.96		1.08	6.0	7	20	1	10	sw.	Linus L. Shields.		
Knowles (near).	Eddy.	4,300		59.8		80	1	20	28	46	0.45		0.19	T.	4	27	0	4	sw.	J. W. Mosley.		
Laguna.	Valencia.	5,840	5	53.8		82	1†	23	21	46	1.04		0.32	3.5	4	19	0	12	nw.	Gu. Weiss.		
Lagunita.	Guadalupe.	4,500	5	53.4		83	1†	17	28	50	0.74		0.57	1.0	3	21	2	8	w.	P. A. Turnbull.		
Lake Valley.	Sierra.	5,412	5																Wm. P. Keil.			
Las Vegas.	San Miguel.	6,384	23	48.8	- 1.0	85	8	17	21	54	0.85	- 0.18	0.39	1.5	4	23	5	3	s.	Dr. Wm. Curtiss Bailey.		
Liston.	Chaves.	5,000																	H. G. Liston.			
Los Lunas (near).	Valencia.	4,900	20	55.0	+ 1.3	89	7	20	21	56	0.12		0.72	0.12	T.	1	20	9	2	sw.	Richard Pohl.	
Los Tanos.	Guadalupe.	4,019	1																El Paso & Southwest. R. R.			
Magdalena.	Socorro.	6,557	5	52.2		86	12	19	28	50	0.39		0.30	T.	3	23	7	1	w.	Wm. M. Nelson.		
Mineral Hill.	do.	7,050	5																El Paso & Southwest. R. R.			
Monterey.	Otero.	4,436	1						88	1†	34	21†	0.53		0.40	0.0	6	21	6	e.	Mrs. John W. Corbett.	
Mountainair.	Torrance.	6,547	8	51.6		86	1	15	21	44	0.87		0.41	4.0	4	20	9	2	sw.	El Paso & Southwest. R. R.		
Newman.	Otero.	4,114	1						95	1			0.00		0.00	0	26	3	2	e.	El Paso & Southwest. R. R.	
Noria.	Otero.	5,000	1						92	1			0.18		0.10	0	27	2	2	w.	Do.	
Orange.	Otero.	4,171	1						92	1†			0.20		0.10	0	2	19	9	3	w.	Jas. Brownfield, jr.
Orogrande.	Lincoln.	5,016	1																El Paso & Southwest. R. R.			
Oscuro (near).	Eddy.	3,100	1																Eugenio F. Jones.			
Otis.	Santa Fe.	6,200	1																A. M. Hove.			
Otto.	Guadalupe.	5,285	1						88	1			0.27		0.10	0	4	2	2	se.	W. K. Davis.	
Pastura.	Lincoln.	5,000																	El Paso & Southwest. R. R.			
Picacho (near).	Chaves.	4,300																	P. D. Southworth.			
Plainview (near).	Taos.	8,956	2	43.7		73	2	3	22	52	1.05		0.40	11.0	4	24	6	1	e.	L. P. Adair.		
Red River Canyon.	Dona Ana.	4,030	12	61.2	+ 1.2	93	1	29	29	51	0.29	- 0.19	0.17	0.0	2	16	12	3	w.	Mrs. L. R. Penn.		
Rincon.	Rio Arriba.	4,265	12	59.6	+ 2.0	92	4	30	21	54	0.61	+ 0.05	0.66	0.0	2	24	5	2	sw.	Chas. H. Raitt.		
Rio Grande Dam.	Socorro.	6,910	5	52.1		80	8	22	21	34	1.34		1.10	4.0	5	23	0	9	w.	U. S. Reclamation Service.		
Rosedale.	Chaves.	3,578	12	57.4	- 2.1	90	1	24	28	48	0.36	- 0.48	0.34	T.	3	21	7	3	s.	W. H. Martin.		
San Marcial.	Socorro.	4,439	14	57.4	- 0.5	88	2	25	21	53									U. S. Weather Bureau.			
San Rafael.	Valencia.	6,509	6	53.3	- 0.5	94	0	20	21	60	1.86		0.47	2.0	8	14	3	14	nw.	Atch., Topeka & F. F. R. R.		
Santa Fe.	Santa Fe.	7,013	37	49.5	- 0.5	80	8	20	28	36	0.40	- 0.67	0.17	0.4	5	28	8	3	ne.	Dr. Chas. M. Grover.		
Santa Fe Canyon.	do.	8,000	1																U. S. Weather Bureau.			
Santa Rosa.	Guadalupe.	4,624	10	58.0		92	7	20	2													

TABLE 1.—Climatological data for October, 1910. District No. 8—Continued.

Stations	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.					Precipitation, in inches.			Sky.			Observers.					
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.	Number of rainy days, 0.1 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.	Prevailing wind direction.	
<i>New Mexico—Cont'd.</i>																				
Winsors.	San Miguel.	8,200	12	39.1	- 2.9	68	9	12	21	41	1.02	- 0.61	0.41	2.0	4	19	7	5	w.	Henry D. Winsor.
<i>Texas.</i>																				
Abilene.	Taylor.	1,738	25	65.2	+ 1.0	93	13	34	28	39	4.62	+ 2.29	3.77	0.0	5	19	4	8	s.	U. S. Weather Bureau.
Albany.	Shackelford.	1,420	16	63.0	- 0.6	97	14	26	29	52	3.64	+ 1.56	1.75	0.0	4	25	1	5		N. L. Bartholomew.
Anahuac.	Chambers.	23	1	68.7	- 0.3	90	17	34	29	34	3.10	-	1.23	0.0	7					B. H. Collins.
Austin.	Travis.	593	54	68.7	- 0.3	90	17	34	29	34	2.72	- 0.11	1.60	0.0	6	22	6	3	sw.	A. Deussen.
Ballinger.	Runnels.	1,637	15	64.9	+ 0.1	93	57	29	29	45	1.42	- 0.76	0.77	0.0	3	21	5	5	s.	E. M. Eubank.
Barstow.	Ward.	2,573	3								T.		T.	0.0	0					E. C. Quereau.
Bay City.	Matagorda.	53									3.63		2.45	0.0	3	19	5	7	s.	John Bender.
Beaumont.	Jefferson.	29	13	70.4	+ 0.5	92	17	34	29	35	3.61	+ 0.78	1.88	0.0	4	18	0	13	ne.	L. E. Dickey.
Beville.	Bee.	225	14	71.8	- 1.0	96	5	38	29	37	1.54	- 0.07	0.68	0.0	4	14	9	8	n.	B. Reagan.
Big Springs.	Howard.	2,396	12	65.2		95	1	33	21	45	2.32	+ 0.18	1.68	0.0	4	21	8	4	s.	R. C. Crist.
Blanco.	Blanco.	1,350	14	66.5	- 0.5	96	2	27	29	39	2.76	+ 0.62	1.27	0.0	6	23	5	4	s.	F. W. Schweppé.
Boerne.	Kendall.	1,412	18	67.4	+ 0.3	98	167	27	27	48	3.11	+ 0.13	1.10	0.0	4	19	3	9	n.	T. R. Booth.
Booth.	Fort Bend.	81	9								1.99		0.88	0.0	6	22	0	9	e.	J. O. Langford.
Boquillas.	Brewster.		71.0 ^a			95		41	29											Craig Anderson.
Bowie.	Montague.		68.7	+ 3.5	99	12 ^b	30	28	40	1.49	- 1.50	0.98	0.0	3	17	6	8	n.	Mrs. M. A. Stevens.	
Brasoria.	Brazoria.	1,113	16	71.2	+ 1.2	96	15	31	29	44	2.77	- 1.56	2.13	0.0	7	26	1	4	n.	Robt. E. Boyett.
Brazos.	Palo Pinto.	801	1								1.94		0.98	0.0	4	18	9	4	s.	Mrs. B. F. Sloan.
Brenham.	Washington.	350	21	69.8	- 0.3	93	15	36	29	38	1.17	- 1.59	0.32	0.0	6	14	5	5	s.	Claude Strange.
Bridgeport.	Wise.	754	1								1.36		1.20	0.0	3	21	5	3	se.	G. H. Ritter.
Brighton.	Nueces.	12	14	74.5	0.0	92	17	45	30	35	0.67	- 1.26	0.25	0.0	3	23	5	3	se.	U. S. Weather Bureau.
Brownsville.	Cameron.	38	21	73.4	- 0.8	93	4	44	29	30	3.31	+ 0.10	1.39	0.0	5					Mrs. Pearl Smith.
Brownwood.	Brown.	1,342	20	64.8	- 1.3	94	13	28	29	46	2.81	+ 0.78	1.05	0.0	4	14	8	8	s.	J. E. Watts.
Cameron.	Milan.	2	70.3			98	15	31	28	37	2.88		1.12	0.0	6	25	2	2	s.	M. S. Spitzer.
Carmona.	Polk.	330	2	68.0		95	15	22	29	43	3.23		1.07	0.0	6	21	8	2	s.	Wm. Lanius.
Claytonville.	Fisher.	2,100	15	63.3		94	1	30	28	45	2.74	+ 0.29	1.70	0.0	5	17	6	3	s.	J. E. Stevens.
Coleman.	Coleman.	1,710	16	68.4	+ 2.5	96	14 ^b	30	29	40	1.73	- 0.44	0.02	0.0	3	12	14	5	s.	Prof. G. S. Fraps..
College Station.	Brazos.	308	19	70.6	+ 1.2	96	15	32	29	42	0.77	- 2.06	0.20	0.0	6	23	4	4	s.	R. M. Webb.
Colorado.	Mitchell.	2,066	16	61.1		92 ^a	2	33	21	52 ^a	3.53	+ 1.90	1.67	0.0	4	14	0	8	s.	R. B. Loggins.
Columbia.	Brazoria.	34	21	67.9	- 1.8	93	15	30	29	38	3.14	+ 0.03	2.71	0.0	5	22	4	5	n.	Mrs. Sophie Bridge.
Colorado.	Colorado.	206	6								2.38		0.94	0.0	6	16	8	7	n.	E. F. Prosser.
Comstock.	Valverde.	1,557	1																	U. S. Weather Bureau.
Corpus Christi.	Nueces.	20	23	73.0	- 0.6	91	5	48	29	26	0.17	- 1.88	0.11	0.0	4	17	8	6	n.	E. L. Gibson.
Corsicana.	Navarro.	445	21	68.4	+ 1.4	97	2	32	29	41	0.51	- 2.23	0.21	0.0	3	27	1	3	nw.	A. M. Rencher.
Crockett.	Houston.	350	6	70.2		97	15	31	29	45	1.09		0.34	0.0	6	22	5	4	s.	H. R. Frobes.
Cuero.	DeWitt.	177	21	72.4	+ 1.3	100	4	30	29	50	0.57	- 2.24	0.29	0.0	6	15	6	10	n.	G. A. Eisenlohr.
Dallas.	Dallas.	466	21	67.0	+ 0.8	100	14	26	30	47	0.93	- 1.59	0.53	0.0	2	22	1	8	s.	H. P. Hermansen.
Danevang.	Wharton.	145	14	69.9	- 1.6	95	3	36	21 ^b	40	2.30	- 2.12	1.20	0.0	2	26	1 ^a	3 ^a	se.	Fort Worth & Denver Ry
Decatur.	Wise.	1,047	14								1.44	- 0.92	1.44	0.0	1	17	11	3	se.	U. S. Weather Bureau.
Dr. Rio.	Valverde.	952	4	69.0	- 0.9	97	13	36	22	40	1.01	- 0.48	0.71	0.0	1	17	7	7	s.	M. A. Keller.
Devines.	Medina.	653	7	70.4		96	13	33	29	43	2.40		1.00	0.0	3	23	3	5	se.	J. M. B. Knight.
Dialville.	Cherokee.	575	6	70.2		94	14	30	29	39	1.33		1.21	0.0	3	22	4	5	s.	John W. Miller.
Diley.	Frio.	569											0.00	0.0						Jno. O. Shafer.
Dublin.	Erath.	1,466	15	66.4	+ 1.4	95	15	34	28	39	1.69	- 1.13	0.62	0.0	4	21	3	7	s.	J. C. Edgar.
Duval.	Travis.	820	21	69.4	- 0.6	93	15	33	30	34	3.96	+ 0.91	1.90	0.0	5	25	1	5	s.	Jos. Metcalfe.
Eagle Pass.	Maverick.	800	21	72.6	+ 0.1	99	16	38	23	44	0.47	- 1.11	0.45	0.0	2	9	18	4	...	E. L. Faires.
Edna.	Jackson.	71	1								1.97		1.00	0.0	0	3				U. S. Weather Bureau.
El Paso.	El Paso.	3,762	31	63.5	+ 1.1	90	1	35	21	39	0.02	- 0.93	0.01	0.0	2	24	7	0	e.	H. C. Braden.
Encinal.	La Salle.	558	2	72.0		97	13	34	29	40	1.33		1.30	0.0	2	14	15	2	ne.	R. L. Bush.
Fairland.	Burnet.	1,000	23	69.2		98	13	31	29	47	2.16	+ 0.14	1.15	0.0	6	24	2	5	s.	W. A. Gardner.
Falfurrias.	Starr.	3	71.6			98	3 ^b	28	29	44	2.22		0.36	0.0	4	18	12	1	nw.	Fred W. Laux.
Flatonia.	Fayette.	405	2	71.5		98	5	36	29	35	2.03		1.14	0.0	6	21	7	3	s.	F. C. C. Carter.
Flint.	Smith.	483		68.8		98	16	24	29	46	0.93		0.68	0.0	3	26	2	3	sw.	H. H. Butz.
Fort Clark.	Kinney.	1,050	23	67.5	- 2.5	94	12	36	20	34	1.97	+ 0.08	0.85	0.0	4	12	11	3	se.	U. S. Weather Bureau.
Fort McIntosh.	Webb.	480	24	75.2	+ 1.6	99	40	27	29	39	2.30	+ 1.14	2.00	0.0	3	24	2	3	se.	Arthur Striegler.
Fort Stockton.	Pecos.	3,050	13	66.0	+ 2.8	97	13	29	28	46	0.15	- 1.19	0.12	0.0	2	22	6	3	se.	J. L. Hickson.
Fort Worth.	Tarrant.	670	15	67.4	+ 1.1	99	14	31	29	36	0.68	- 1.83	0.52	0.0	4	17	11	3	s.	U. S. Weather Bureau.
Fredericksburg.	Gillespie.	1,742	21	65.5	- 0.4	89	5	30	29	34	3.61	+ 1.44	1.23	0.0	5	21	4	6	n.	John Ryan.
Gainesville.	Cooke.	738	21	66.6	+ 1.1	97	14	27	29	40	1.20	- 2.14	0.75	0.0	3	28	3	2	se.	Prof. R. F. Young.
Galveston.	Galveston.	69	40	72.1	- 0.3	87	15	47	29	20	9.36	+ 5.18	6.62	0.0	9	21	8	5	s.	J. M. Johnson.
Gateville.	Corryell.	795	6	66.8		94	14	28	28	38	2.25		1.00	0.0	3	28	3	5	s.	C. W. Johnson.
Georgetown.	Williamson.	750	15	67.6	+ 0.2	96	15	29	29	47	3.11	- 0.57	1.28	0.0	7	23	5	3	n.	F. E. Whitemore.
Gonzales.	Gonzales.	299	5								1.08		1.18	0.0	7	17	3	11	n.	W. J. Crowley.
Graham.	Young.	1,040	11	67.3	+ 3.3	100	14	28	29	44	1.98	- 0.49	1.75	0.0	3	23	4	4	n.	J. P. Regan.
Grand Saline.	Van Zandt.										0.36		0.20	0.0	3	20	10	1	n.	S. D. Austin.
Grapenine.	Tarrant.	870	20	69.5 ^a	+ 2.3	101	15	35	28	39	0.57	- 2.68	0.47</							

TABLE 1.—Climatological data for October, 1910. District No. 8—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.				Precipitation, in inches.				Total snowfall unmeasured.	Number of rainy days.	Number of 0.01 inch or more clear days.	Sky.	Prevailing wind direction.	Observers.				
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.										
Texas—Cont'd.																					
Lufkin.	Angelina.	325	3	69.6	—	95	14	25	29	46	1.26	—	0.45	0.0	6	26	3	s.			
Luling.	Caldwell.	418	21	68.8	—	1.4	91	1	34	29	36	2.65	—	0.27	1.04	0.0	6	21	n.		
Marathon.	Brewster.	4,043	61.0	84	12†	26	21	40	0.08	—	0.08	—	0.08	0.0	1	18	4	11	s.		
Marble Falls.	Burnet.	771	2	—	—	—	—	—	—	2.08	—	—	0.80	0.0	3	21	0	10	n.		
Marfa.	Presidio.	—	—	—	—	—	—	—	—	—	—	—	0.00	0.0	0	0	0	0	—		
Marshall.	Harrison.	375	1	67.8	—	95	1	23	29	44*	1.32	—	0.55	0.0	7	8	20	3	e.		
Matacgora.	Matacgora.	—	—	—	—	—	—	—	—	—	—	—	2.43	—	2.10	0.0	2	5	3	se.	
Mexia.	Limestone.	537	6	67.0	—	96	15	29	29	43	1.30	—	0.35	0.0	7	16	9	6	w.		
Midland.	Midland.	—	3	—	—	—	—	—	—	1.20	—	—	0.90	0.0	3	17	11	3	sw.		
Mission.	Hidalgo.	65	—	—	—	—	—	—	—	—	—	—	0.13	0.0	1	23	6	2	se.		
Mont Belvieu.	Chambers.	—	—	—	—	—	—	—	—	—	—	—	3.53	—	1.40	0.0	7	20	5	n.	
Mountain View.	Pecos.	—	—	—	—	—	—	—	—	—	—	—	0.29	—	0.13	0.0	3	—	—	—	
Mt. Blanco.	Crosby.	2,750	22	61.5	0.0	91	13	25	28	50	1.13	—	0.98	0.60	T.	3	16	5	10	s.	
Nacogdoches.	Nacogdoches.	271	11	67.8	+ 2.0	93	14	25	29	45	2.27	—	1.14	1.44	T.	0	4	20	2	n.	
New Braunfels.	Comal.	720	21	67.9	— 0.9	90	15	33	29	34	2.52	+ 0.16	1.36	0.0	4	22	4	5	s.		
Palestine.	Anderson.	510	28	68.6	+ 2.4	92	14	31	29	31	1.06	—	2.54	0.74	0.0	4	21	5	5	s.	
Panter.	Hood.	1,000	20	—	—	—	—	—	—	—	—	—	1.09	—	1.63	0.63	0.0	4	—	—	
Pearall.	Frio.	629	—	—	—	—	—	—	—	—	—	—	2.23	—	1.25	0.0	5	—	—	—	
Pierres.	Wharton.	102	4	69.4	—	93	15	28	29	48	1.61	—	0.95	0.0	3	15	12	4	s.		
Plainview.	Hale.	3,370	18	61.6	—	91	1	26	28	52	0.77	—	0.83	0.41	T.	3	25	3	3	s.	
Port Lavaca.	Calhoun.	20	9	71.5	—	97	15	36	29	34	2.97	—	1.52	0.0	3	22	5	4	se.		
Post City.	Garza.	—	—	—	—	—	—	—	—	—	—	—	1.42	—	0.80	0.0	4	24	3	4	s.
Ricardo.	Nueces.	57	1	72.1	—	95	16	34	29	37	0.76	—	0.53	0.0	0	5	20	9	2	se.	
Riverside.	Walker.	189	6	—	—	—	—	—	—	—	—	—	0.21	—	0.21	0.0	1	19	0	12	n.
Robert Lee.	Coke.	1,850	11	65.2	—	92	13	33	28	43	2.21	+ 0.21	0.88	0.0	4	26	2	3	s.		
Rockland.	Tyler.	136	6	—	—	—	—	—	—	—	—	—	0.53	—	0.28	0.0	3	19	2	10	se.
Rossville.	Atascosa.	558	3	70.2	—	94	2	32	21	42	2.78	—	1.00	0.0	5	18	11	4	sc.		
Runge.	Karnes.	308	15	—	—	—	—	—	—	—	—	—	0.45	—	0.45	0.0	1	—	—	—	
Sabin.	Uvalde.	964	6	71.0	—	95	13†	35	29	39	5.15	—	1.87	0.0	6	16	5	10	ne.		
Salado.	Bell.	—	—	—	—	—	—	—	—	—	—	—	3.31	—	2.35	0.0	4	19	4	5	s.
San Angelo.	Tom Green.	1,847	19	65.8	—	92	1†	32	29	39	1.88	—	0.04	0.90	T.	0	5	22	4	5	s.
San Antonio.	Bexar.	701	25	69.0	— 0.2	94	15	36	29	32	3.35	+ 1.86	0.92	0.0	8	18	8	5	n.		
San Augustine.	San Augustine.	360	1	68.6	—	96	1	24	29	47	2.83	—	1.88	0.0	5	21	2	8	s.		
San Juanito.	Hidalgo.	1	73.4	—	96	13	38	29	34	1.23	—	0.85	0.0	3	14	3	14	n.			
San Marcos.	Hays.	588	17	67.8	— 0.4	91	1†	33	29†	30	3.61	+ 0.62	1.53	0.0	4	21	0	10	n.		
San Saba.	San Saba.	1,712	6	65.6	—	96	13	25	29	49	2.36	—	1.10	0.0	5	23	6	2	s.		
Santa Gertrudes.	Nueces.	8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Seymour.	Baylor.	1,320	4	65.0	—	97	13	31	28	44	1.97	—	0.98	0.0	4	25	2	4	s.		
Sligo.	Yoakum.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Somerville.	Burleson.	251	1	67.8	—	83	1†	29	29	40	0.09	—	0.09	0.0	1	7	0	24	s.		
Sonora.	Sutton.	2,200	7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Sutherland Springs.	Fort Bend.	79	12	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Wilson.	Wilson.	—	—	70.6	—	96	11	28	29	44	1.04	—	0.57	0.0	6	20	1	10	n.		
Taylor.	Williamson.	583	9	63.0	— 0.3	93	15	35	29	33	4.56	+ 2.00	1.41	0.0	7	22	5	4	n.		
Temple.	Bell.	630	16	67.4	— 0.5	91	15	39	21†	28	1.59	— 0.75	0.74	0.0	5	22	3	7	s.		
Theodore.	Winkler.	—	—	—	—	—	—	—	—	—	—	—	0.20	—	0.15	0.0	1	—	—	—	
Thurber.	Erath.	—	—	—	—	—	—	—	—	—	—	—	2.58	—	0.97	0.0	4	12	7	nw.	
Tilden.	McMullen.	—	4	71.1	—	101	13†	28	29	54	2.73	—	1.43	0.0	4	12	12	7	se.		
Tivoli.	Refugio.	—	—	—	—	—	—	—	—	—	—	—	0.00	—	0.00	0	6	25	0	—	
Uvalde.	Uvalde.	937	2	69.2	—	95	13	30	29	41	2.98	—	1.25	0.0	5	13	14	4	se.		
Valley Junction.	Robertson.	289	10	—	—	—	—	—	—	—	—	—	0.94	—	1.93	0.30	0.0	5	22	1	s.
Victoria.	Victoria.	187	12	72.7	— 1.1	97	13	34	29	45	0.90	—	2.78	0.60	0.0	2	21	1	11	s.	
Waco.	McLennan.	424	21	68.6	+ 0.4	95	1†	32	29†	44	0.88	—	1.68	0.88	0.0	2	21	1	9	s.	
Waxahachie.	Ellis.	556	14	67.2	+ 1.3	100	13†	25	29†	51	0.44	—	2.25	0.40	0.0	3	23	4	4	n.	
Weatherford.	Parker.	864	21	66.2	+ 0.6	95	13	30	29	36	1.50	—	1.04	0.90	0.0	6	24	1	6	s.	
Wharton.	Wharton.	105	8	70.6	—	97	15	29	29	45	1.88	—	0.93	0.64	0.0	3	18	6	7	n.	
Wills Point.	Van Zandt.	524	5	67.6	—	95	14	28	28	46	0.64	—	0.36	0.0	2	22	5	4	n.		
Zapata.	Zapata.	300	1	73.0	—	97	13†	37	29	39	2.02	—	1.85	0.0	3	16	9	6	n.		

* a, b, c, etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.

* Precipitation included in that of the next measurement.

** Temperature extremes are from observed readings of the dry bulb; means are computed from observed readings.

† Also on other dates.

‡ Separate dates of falls not recorded.

§ Data are from standard instruments not supplied by the U. S. Weather Bureau.

|| Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.

¶ Estimated by observer.

||| Precipitation for the 24 hours ending on the morning when it is measured.

T. Precipitation is less than 0.01 inch rain or melted snow.

F. M. Getzendaner.

T. M. Williams.

C. C. Zirjacks.

E. H. Hall.

C. D. Longserre.

Miss J. Stickfort.

Mrs. F. M. Hughes.

W. W. Gibbard.

F. H. Ernest.

TABLE 2.—*Daily precipitation for October, 1910. District No. 8, Texas and Rio Grande Valley.*

TABLE 2.—*Daily precipitation for October, 1910. District No. 8—Continued.*

Stations.	River basins.	Day of month.																														Total.				
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31				
Texas—Cont'd.																																				
Barstow.	Pecos.																																			T.
Bay City	Colorado.	.53	.66	1.88	.98																														3.63	
Beaumont	Neches.	.06																																	3.61	
Beeville	Coast.	.57		T.																														1.54		
Big Springs.	Colorado.	T.																																2.32		
Blanco	Guadalupe.	.77	.13																															2.76		
Boerne.	San Antonio.	.80	.61																															3.11		
Booth	Brazos.	.08	.25																															1.99		
Boquillas.	Rio Grande.																																			
Bowie.	Trinity.	T.																																	1.49	
Brasoria.	Brazos.	.06	.23																															2.77		
Brasco	do.	.27																																1.94		
Brenham	do.	.01	.23	.15																													1.17			
Bridgeport	Trinity.	.04																																1.36		
Brighton.	Coast.	.25																																0.67		
Brownsville.	Rio Grande.	.04																																3.31		
Brownwood	Colorado.	1.05	.08	T.																													2.81			
Cameron	Neches.	1.07	T.	.75	.30	.02																										2.88				
Carmona.	Brazos.	.10																															3.23			
Claytonville.	Brazos.	.92																															2.74			
Coleman.	Colorado.	.15																															1.73			
College Station.	Brazos.	.17																															0.77			
Colorado.	Colorado.	.30	.07																														3.53			
Columbia.	Brazos.	.20	.32	.04																													3.14			
Columbus	Colorado.	T.	.20																														2.38			
Comstock.	Colorado.	.03	T.	.01																													0.17			
Corpus Christi.	Coast.	.48																															0.51			
Corsicana	Guadalupe.	.06																															1.09			
Crockett.	do.	.34	.25	.05																													0.57			
Cuero	Guadalupe.	.16																															0.93			
Dallas	Trinity.	T.	T.																														2.30			
Danevang.	Coast.	T.	T.																														1.44			
Decatur.	Trinity.																																0.02			
Del Rio.	Rio Grande.	.71	.08																														1.01			
Devine.	Nueces.	1.00	.97																														2.40			
Dierville.	Neches.	1.21	T.	T.																													1.33			
Dilley.	Nueces.																																0.00			
Dublin	Brazos.	.50																																1.69		
Duval.	Colorado.	.21	.45																														3.95			
Eagle Pass.	Rio Grande.	.45																															0.47			
Edna.	Lavaca.	.90	.07																														1.97			
El Paso.	Rio Grande.																																0.02			
Encinal.	Nueces.	1.30																															1.33			
Fairland.	Colorado.	.37	.17																														2.16			
Falfurrias.	Coast.	.73	.51	.86																													2.22			
Flatonia.	Guadalupe.	.06	.14																														2.03			
Flint.	Neches.	.68	.16																														0.93			
Fort Clark .	Rio Grande.	.46	.26	T.																													1.97			
Fort McIntosh.	do.	2.00																															2.30			
Fort Stockton.	Pecos.																																0.15			
Fort Worth.	Trinity.	T.	.11																														0.68			
Fredericksburg.	Colorado.	.99	1.10																														3.61			
Gainesville.	Trinity.																																1.20			
Galveston.	Coast.	.45	.55	.02	0.60																											9.36				
Gatesville.	Brazos.	1.00																															2.25			
Georgetown .	do.	.22	.04																														3.11			
Gonzales .	Guadalupe.	.12	.13	.14																												1.98				
Graham.	Brazos.	T.																														1.98				
Grand Saline.	Sabine.	.08	T.	.08																												0.57				
Grapevine.	Trinity.																															1.38				
Greenville .	Brazos.	T.	.07	.30																												0.94				
Hallettsville.	Lavaca.	T.	T.	T.	T.																											2.67				
Harper.	Colorado.	.67																														1.08				
Haskell.	Brazos.	T.																														1.75				
Hebronville.	Coast.	.70</td																																		

TABLE 2.—*Daily precipitation for October, 1910. District No. 8—Continued.*

MONTHLY WEATHER REVIEW.

OCTOBER, 1910

TABLE 3.—Maximum and minimum temperatures at selected stations, October, 1910. District No 8, Texas and Rio Grande Valley.

Date.	Colorado.				New Mexico.																Texas.										Corpus Christi.													
	Garnett.		San Luis.		Agricultural College.				Carlsbad.				Fort Stanton.				Mountainair.				Roswell.				Santa Fe.				Santa Rosa.				Abilene.				Big Springs.				Brownsville.			
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.								
1...	76	29	74	32	90	52	93	51	86	35	86	42	76	47	90	45	74	47	91	44	90	66	95	62	87	72	85	75	85	75	85	75	85	75	85	75								
2...	70	33	66	42	82	65	89	65	71	48	72	51	67	47	83	60	74	48	79	58	88	69	90	66	88	72	90	77	88	72	90	77	88	72	90	77								
3...	65	25	69	26	82	45	82	52	76	40	75	36	72	38	74	50	67	36	80	45	81	64	80	62	90	77	90	77	90	77	90	77	90	77	90	77								
4...	75	25	68	33	87	47	94	47	76	33	79	40	45	45	89	42	71	42	87	46	85	58	90	58	93	74	74	74	83	78	83	78	83	78	83	78								
5...	69	23	87	40	87	50	90	52	85	42	78	41	76	45	75	47	70	43	72	47	84	63	86	59	90	76	91	76	91	76	91	76	91	76										
6...	68	20	68	40	80	48	80	42	74	31	83	35	70	41	75	38	70	36	79	34	75	50	76	47	82	70	81	66	86	66	86	66	86	66										
7...	75	21	69	41	80	41	83	37	74	32	80	41	74	40	81	38	75	39	82	37	80	44	83	38	76	53	80	59	80	59	80	59	80	59										
8...	79	25	70	40	87	39	86	40	80	45	84	41	80	48	82	37	80	45	89	43	84	45	86	42	78	54	82	55	82	55	82	55	82	55										
9...	81	26	70	30	86	43	89	44	84	29	81	40	45	45	84	36	79	46	88	40	79	47	86	42	82	52	85	57	85	57	85	57	85	57										
10...	77	27	74	29	72	48	74	48	84	40	73	38	71	45	69	42	71	42	73	40	63	53	75	41	83	65	77	66	83	77	66	83	77											
11...	65	31	72	31	76	52	75	52	67	44	69	44	63	40	69	51	62	45	68	50	70	62	78	56	85	65	86	69	86	69	86	69	86	69										
12...	72	28	70	28	85	41	91	46	68	34	66	39	73	42	83	43	68	39	80	47	83	60	89	54	90	66	82	66	82	66	82	66	82	66										
13...	79	23	70	29	87	44	91	47	77	39	79	39	71	43	85	46	68	43	84	47	93	69	94	59	90	70	81	68	81	68	81	68	81											
14...	70	33	69	29	88	51	85	53	80	43	79	42	72	45	86	49	67	51	82	47	90	65	94	59	88	69	84	72	84	72	84	72	84	72										
15...	65	28	72	30	89	70	86	43	77	42	76	46	68	49	82	50	68	51	81	48	90	59	90	58	87	69	89	71	89	71	89	71	89	71										
16...	72	35	70	34	88	58	86	44	73	41	76	43	70	48	83	47	70	43	80	51	85	60	90	59	89	66	86	70	86	70	86	70	86	70										
17...	24	57	31	78	36	87	51	84	44	91	47	77	39	79	33	61	36	74	45	82	44	84	58	85	66	86	83	86	83	86	83	86	83											
18...	29	51	30	76	43	83	40	80	33	61	33	56	35	74	45	82	40	81	34	89	45	82	65	83	86	86	86	86	86	86	86	86	86											
19...	25	41	29	65	60	50	73	48	67	39	54	31	51	32	57	40	41	30	36	36	67	46	78	44	87	72	83	73	83	73	83	73	83	73										
20...	19	38	17	56	44	56	39	46	26	34	22	37	27	44	30	30	23	43	29	46	40	49	43	39	78	61	71	61	71	61	71	61	71	61										
Mns	67.8	23.3	64.0	27.3	78.8	45.2	81.0	43.6	71.1	33.7	67.9	35.2	65.5	38.7	74.8	39.9	62.2	36.8	75.9	40.2	77.2	53.2	81.5	48.9	82.8	63.9	79.5	64.5	82.8	64.5	79.5	64.5	82.8	64.5	79.5	64.5								

Date.	Texas.				Texas.																Texas.										Corpus Christi.																	
	Del Rio.		El Paso.		Fort McIntosh.				Fort Stockton.				Fort Worth.				Galveston.				Hallettsville.				Houston.				Lufkin.				Palestine.				Plainview.				San Antonio.				Seymour.		Taylor.	
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.										
1...	92	70	90	56	96	74	92	61	91	70	84	72	91	68	89	68	89	69	90	67	90	91	55	91	70	96	62	92	70	96	62	92	70	96	62	92	70											
2...	92	72	80	63	95	74	90	60	88	68	85	80	90	68	86	68	86	70	92	63	88	68	90	65	90	70	91	68	90	69	91	68	90	69	91	68	90	69										
3...	81	67	81	50	91	74	80	60	85	71	84	75	90	70	88	73	88	75	92	68	89	73	88	75	92	76	94	71	86	76	94	71	86	76	94	71	86	76										
4...	84	65	86	53	92	70	95	55	82	64	85	74	89	71	88	75	86	73	92	68	84	73	88	75	92	76	94	71	86	76	94	71	86	76	94	71	86	76										
5...	96	67	86	61	99	74	87	60	94	67	86	79	93	74	90	76	94	74	90	74	90	73	78	53	92	72	93	63	92	71	93	63	92	71														
6...	82	58	78	57	99	74	78	45	74	55	81	68	80	67	80	63	86	63	76	59	79	39	80	61	77	45	78	59	78	59	78	59	78	59	78	59												
7...	82	46	79	49	82	55	84	41	77	50	74	60	77	54	76	55	75	52	73	51	73	53	78	55	82	40	76	51	82	40	76	51	82	40	76	51												
8...	86	46	85	46	86	52	87	43	80	46	75	56	80	49	78	52	78	46	76	49	89	37	80	52	86	42	78	49	86	42	78	49	86	42	78	49												
9...	80	52	84	52	86	52	87	44	79	47	69	63	77	54	74	68	68	73	52	75	60	85	41	73	55	84	42	78	49	86	42	78	49	86	42	78	49											
10...	66	57	70	53	75	75																																										